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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/631,263 | 07/31/2003 | Thomas G. Corbett | D5407-177 | 3794 |

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| EXAMINER | |
|---|---|
| GAY, JENNIFER HAWKINS | |
| **ART UNIT** | **PAPER NUMBER** |
| 3672 | |

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/631,263 | CORBETT, THOMAS G. | |
| | Examiner | Art Unit | |
| | Jennifer H Gay | 3672 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 July 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/31/03,11/12/03*, 1/12/04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 46' and 70. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The abstract of the disclosure is objected to because the abstract includes the implied phrase "are described". Correction is required. See MPEP § 608.01(b).

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### *Claim Objections*

4. Claims 6-8, 10-12, 16-18, and 20 are objected to because there is a lack of antecedent basis for "said first direction" and "said second direction" in the claims. Claim 9 is objected to because the "return port" cannot be both within and above the "seal bore". Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 3-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Zunkel et al. (US 4,633,944).

*Regarding claim 1:* Zunkel et al. discloses a gravel packing method that involves the following steps:

- Running in a packer **290** and a screen assembly (6:10-20) support by the packer.
- Inserting a crossover assembly **12** that supports a wash pipe **460** at least in part into the packer.
- Flowing gravel through the packer and the crossover and through an annular space **1000** between the screen assembly and the wash pipe to an annular region outside the screen assembly (5:44-48, 6:10-20).
- Removing excess gravel in the annular space without moving the crossover and the wash pipe (6:60-68).

*Regarding claim 3:* The method further involves providing a clearance **1006** in the bore of the packer as it is set and allowing a fluid column to act through the clearance during setting of the packer to exert pressure on the formation below the packer. (5:49-51)

*Regarding claim 4:* The method further involves flowing fluid through the packer in a first direction to deposit gravel in the annular region and reversing the direction of flow through the packer to a second direction to remove excess gravel from the annular space (6:10-20, 60-67).

*Regarding claim 5:* The method further involves providing at least one return port **434** in the wash pipe, exposing the return port to the annular space, and providing a first check valve in the port (Abstract).

*Regarding claim 6:* The method further involves using the first check valve to prevent returning fluid passing through the screen assembly in the first direction after leaving the gravel in the annular region and entering the wash pipe from flowing through the return port. (Abstract, 6:10-20)

*Regarding claims 7, 8:* The method further involves providing a second check valve **450** in a flow path through the wash pipe, allowing fluid that enters a lower end of the wash pipe in the first direction to pass the second check valve while preventing fluid entering the wash pipe from the crossover in the second direction from passing the second check valve.

*Regarding claim 9:* The method further involves providing a seal bore **28** in the screen assembly, extending the wash pipe into the seal bore, defining the annular space between the seal bore and the packer, and selectively positioning the return ports within and above the seal bore.

*Regarding claim 10:* The method further involves blocking a passage in the packer from fluid return to the surface when the return ports is in the seal bore and forcing fluid to enter the formation after depositing gravel in the annular region when flowing in the first direction (6:20-45).

*Regarding claim 11:* The method further involves opening a passage in the packer for fluid return to the surface when the return port is out of the seal bore and disposed in the annular space and allowing fluid flowing in the first direction to pass through the screen, enter the wash pipe past the second check valve and flow through the opened passage in the packer to the surface (6:60-68).

*Regarding claim 12:* The method further involves reversing to the second fluid direction with the passage open in the packer and return port to remove gravel from the annular space.

## *Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 2 and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zunkel et al. in view of Rebardi et al. (US 4,858,690).

*Regarding claims 2, 14, 15, and 17:* Zunkel et al. discloses all of the limitations of the above claims except for the crossover including a seat to accept an obstructing object that allows pressure to be built up on the object when located on the seat where the seat is located below the gravel outlet.

Rebardi et al. discloses a gravel packing method that is similar to that of Zunkel et al. Rebardi et al. further teaches a crossover that includes a seat **223** located below gravel outlets **116, 201**. The seat of the crossover is designed to accept an obstructing object **225** and allow pressure to be built up on the object when located on the seat and remain on the seat after the packer is set thus preventing fluid flow down the wash pipe yet allowing fluid flow around the crossover.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the crossover of Zunkel et al. in order to have provided a means for controlling the flow of fluid through the crossover that would have also allowed the tool to be selectively pressurized.

*Regarding claim 13:* Zunkel et al. discloses all of the limitations of the above claims except for the wash pipe including tabs that engage the screen assembly for support in a first and second position.

Rebardi et al. further teaches a set of tabs **88** on a wash pipe **89** that engage the screen assembly for support in a first and second position (Figures 9-11).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the wash pipe of Zunkel et al. to include the tabs of Rebardi et al. in order to have provided a means for positioning the wash pipe relative to the screen assembly while also providing support other than the tubing string.

*Regarding claim 16:* The method further involves providing a seal bore **28** in the screen assembly, extending the wash pipe into the seal bore, defining the annular space between the seal bore and the packer, and selectively positioning the return ports within and above the seal bore.

*Regarding claim 18:* The method of Rebardi et al. further involves allowing flow in a second direction opposite the first direction to enter the wash pipe around the seat and exit the wash pipe through a return port and into an annular space, providing a check valve in the return port, and removing gravel from the annular space with flow passing through the check valve.

*Regarding claim 19:* The method further involves providing a clearance **1006** in the bore of the packer as it is set and allowing a fluid column to act through the clearance during setting of the packer to exert pressure on the formation below the packer. (5:49-51)

*Regarding claim 20:* The method further involves selectively blocking the clearance in the packer when flowing fluid through the packer in a first direction to deposit gravel in the annular region (6:10-20).

## ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The remaining references made of record disclose various wellbore valves and gravel pack circulation valves.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H Gay whose telephone number is (571) 272-7029. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer H Gay
Patent Examiner
Art Unit 3672

JHG
June 7, 2005